ADEQ
Arizona Department of Environmental Quality

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Air Quality Division

Yuma Natural Events Action Plan Implementation Report

AUGUST 18, 2005

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YUMA NATURAL EVENTS ACTION PLAN
IMPLEMENTATION REPORT

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I. Background

The Yuma area was designated as a moderate PM_{10} nonattainment area under the 1990 Clean Air Act Amendments. The area violated the 24-hour PM_{10} National Ambient Air Quality Standard (NAAQS)[1] in 1990 and 1991, and had previously violated the annual NAAQS[2] in 1989 and 1990. Yuma's nonattainment designation required Arizona Department of Environmental Quality (ADEQ) to complete a state implementation plan (SIP) for the Yuma Moderate PM_{10} Nonattainment Area in 1991. The plan demonstrated attainment of the 24-hour and annual NAAQS through reasonable available control measures (RACM). EPA found the plan to be incomplete. In 1994, ADEQ identified additional RACM being implemented in the Yuma area and updated the plan. Based on these additional control measures, the revised plan demonstrated attainment of the PM_{10} NAAQS by even a greater margin. ADEQ adopted the 1994 revision and sent it to EPA. EPA has yet to approve the SIP for the Yuma area.

As a result of several years of "clean data," ADEQ began developing a maintenance plan and redesignation request for the Yuma area in 2001, believing that the improvements of the local air quality were permanent and enforceable. ADEQ identified the various stakeholders in the Yuma area; these stakeholders included the local jurisdictions, the Yuma Metropolitan Planning Organization, the agricultural community, federal agencies, two Native American tribes, the Yuma County Water Users' Association and irrigation districts, and the Arizona Department of Transportation. ADEQ began working with the stakeholders in July 2001 in developing the maintenance plan and redesignation request, and continued to do so until a violation of the 24-hour NAAQS occurred in Yuma on August 18, 2002. As a result of this violation, the development of the maintenance plan was postponed.

The August 18, 2002, violation was caused by large thunderstorms that developed over western Chihuahua and eastern Sonora, Mexico. These storms combined to form a storm system that moved towards the northwest. By evening the thunderstorm had moved to the northwest through Yuma, producing sustained winds in excess of 25 miles per hour[3] with gusts up to 45 miles per hour. Due to the high winds, elevated concentrations of PM_{10} were experienced in Yuma. The 24-hour average concentration of PM_{10} on August 18 was 170 ug/m^3. The 24-hour average NAAQS is 150 ug/m^3 or lower.

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[1] The 24-hour average PM_{10} standard is 150 ug/m^3. Concentrations at or below this amount are not a violation of the 24-hour standard. The 24-hour average PM_{10} monitored values for the Yuma area were 270 ug/m^3 in 1990 and 229 and 188 ug/m^3 in 1991.

[2] The annual average standard is 50 ug/m^3. Concentrations at or below this amount are not a violation of the annual standard. The annual average PM_{10} monitored values for the Yuma area were 52 ug/m^3 in 1989 and 57 ug/m^3 in 1990.

[3] Wind speeds of 15 miles per hour are sufficient to suspend surface soil into the air.

High wind events are a type of natural event covered by EPA's Natural Events Policy (NEP). ADEQ began working with Yuma area stakeholders in 2002 to develop the National Events Action Plan (NEAP) for Yuma and submit the document to EPA by February 18, 2004. ADEQ submitted the Yuma NEAP to EPA on February 17, 2004. A report on the implementation of the February 17th NEAP was then due to EPA by February 18, 2005. This report is the confirmation of the implementation of that NEAP.

II. Principles and Requirements of a NEP and NEAP

A. EPA Natural Events Policy

Prior to the 1990 Clean Air Act Amendments (CAAA), the *Guideline on the Identification and Use of Air Quality Data Affected by Exceptional Events* and Appendix K to 40 CFR, Part 50, were issued by EPA to address, in part, the situation where natural sources strongly affected an area's air quality. EPA stated that it did not want to impose State Implementation Plan (SIP) requirements on such areas. Consequently, EPA provided for the exclusion of certain natural source data[4] from nonattainment determinations.

On May 30, 1996, EPA issued the NEP in a memorandum from Mary D. Nichols, Assistant Administrator for Air and Radiation. This memorandum announced EPA's new policy for protecting public health in all areas where the PM_{10} standard is violated due to natural events. Under this policy, EPA stated that, under certain circumstances, it is appropriate to exclude PM_{10} air quality data that are attributable to uncontrollable natural events from the decisions regarding an area's nonattainment status.

EPA's NEP sets forth the requirements for high PM_{10} concentrations caused by natural events. Under this policy, three categories of natural events are identified as affecting PM_{10} levels: 1) volcanic and seismic activity; 2) wildland fires; and 3) high wind events such as the one that has precipitated this NEAP.

The NEP defines high wind events as follows: "High Winds: Ambient PM_{10} concentrations due to dust raised by unusually high winds will be treated as due to uncontrollable natural events under the following conditions: (1) the dust originated from nonanthropogenic sources, or (2) the dust originated from anthropogenic sources controlled with best available control measures (BACM)."

[4] ADEQ interprets this to mean violations caused by excessive PM_{10} concentrations resulting from wildland fires, high winds, or seismic events.

B. Natural Events Action Plan

In the event of a PM_{10} violation of the NAAQS caused by a natural event in a moderate PM_{10} nonattainment area, the state can develop and submit to EPA a plan of action to address future events (NEP, p. 6). The following is a summary of the EPA guidance regarding development of a NEAP as provided in the NEP. The NEAP should:

1) Include documentation and analysis of the event showing a clear causal relationship between the measured exceedance and the natural event. This documentation of natural events and their impact on measured air quality should be made available to the public for review.

2) Be developed in conjunction with the stakeholders affected by the plan. ADEQ attended twelve stakeholder meetings over the course of developing the NEAP.

3) Identify, study, and implement practical mitigating measures as necessary. Include programs that abate or minimize appropriate contributing controllable sources of PM_{10}.

4) Include programs that help minimize public exposure to unhealthy concentrations of PM_{10} due to future natural events.

5) The NEAP must be made available for public review and comment.

6) The NEAP must be submitted to EPA for review and comment.

7) The NEAP must commit the State to periodically reevaluate: (a) the conditions causing violations of a PM_{10} NAAQS in the area; (b) the status of the implementation of the NEAP; and (c) the adequacy of the actions being implemented. The State should reevaluate the NEAP for an area every five years at a minimum and make appropriate changes to the plan.

C. ADEQ Air Quality Exceptional and Natural Events Policy

ADEQ has developed and adopted an Air Quality Exceptional and Natural Events Policy, similar to EPA's NEP (ADEQ Policy 0159.000). The policy describes the requirements and procedures that are to be followed in the event of an air quality exceptional and natural event in Arizona.

C.1. Analysis Procedures

When an Arizona natural event is observed and verified by ADEQ based on the analysis of meteorological and PM_{10} monitoring data, the characteristics of the high wind event are to be defined by the state based on analysis of meteorological data parameters listed in the NEP and the unique conditions existing in Arizona, pursuant to a document entitled, *Technical Criteria Document for Determination of Natural Exceptional Events in Arizona*.

Elevated emissions of natural and/or well-controlled human-caused sources resulting from high winds events are exempted from additional regulation, except for the requirements of the EPA's NEP.

C.2. Preparation and Submittal to EPA of a Notice of an Air Quality Natural Event

Under the ADEQ policy, when an exceedance of the PM_{10} NAAQS is observed, ADEQ makes the determination that the exceedance is the result of one of the types of events considered in the federal NEP as a natural event, based on technical and scientific evidence. ADEQ and/or the county air pollution control departments or districts will perform an initial standard data quality review to determine the veracity of the reading.

Within six months of the date of the natural event, ADEQ and/or the county air pollution control departments or districts prepare a finding that the NEP may be applicable. If the exceedance is valid and related to a high wind event, ADEQ and/or the county air pollution control departments hold a public meeting in the community near the monitoring site where the exceedance occurred to educate interested members of the public, request additional technical data input, and begin the planning process.

Within 18 months of the date of the air quality exceptional event, ADEQ and/or the county air pollution control departments, in conjunction with the local planning agencies certified pursuant to A.R.S. §49-406, and affected stakeholders prepare the draft NEAP for review.

III. Implementation of the Yuma Natural Events Action Plan

A. Yuma Natural Events Action Plan

As required, ADEQ submitted a NEAP to EPA for the Yuma area by the February 18, 2004, deadline. At the onset of the NEAP development process in August 2002, ADEQ identified the various stakeholders in the Yuma area. These stakeholders included the local jurisdictions, the metropolitan planning organization, the agricultural community, federal

agencies, two Native American tribes, the water users' association and irrigation districts, and the Arizona Department of Transportation. ADEQ met a total of twelve times with the Yuma area stakeholders during the NEAP process.

The Yuma NEAP establishes public notification and education programs; minimizes public exposure to high concentrations of PM_{10} due to future natural events; abates or minimizes appropriate contributing sources of PM_{10}; and identifies and implements practical mitigating measures as necessary. As required, the NEAP will be evaluated every five years, with appropriate changes made to the plan.

B. Commitments

During the development process, stakeholders participated and contributed input in deciding upon the seven commitments that were included in the NEAP. The seven commitments agreed upon were to:

(1) Implement BACM and programs that abate or minimize appropriate contributing sources of PM_{10};
(2) Conduct pilot tests of new emission reduction techniques for minimizing sources of wind-blown dust;
(3) Establish public notification and education programs and develop and implement programs that help minimize public exposures to unhealthy concentrations of PM_{10} due to future natural events;
(4) Require all construction projects to display a project information sign with a phone number for citizens to report dust complaints;
(5) Continue to review options with state officials regarding implementation of a state statute that will require haul trucks to cover their loads during transport throughout the Yuma area;
(6) Allow the Yuma County Public Works Department to continue the responsibility to water, grade, and compact the county unpaved roads throughout the Yuma Nonattainment Area; and
(7) Coordinate the development of a hotline that the public can use to report unauthorized or speeding vehicles on any unpaved road.

A detailed discussion of these commitments follows.

B.1. Implement BACM and Programs that Abate or Minimize Appropriate Contributing Sources of PM_{10}

(a) Yuma Agricultural Best Management Practices Rule

As demonstrated in the Yuma NEAP, a detailed look at the PM_{10} concentrations during the wind event of August 18, 2002, reveals that agricultural fields contributed to 17.7 percent of the

concentrations on that day. ADEQ met with stakeholders of the agricultural community over a span of several months in Yuma to develop an Agricultural Best Management Practices (Ag BMP) program in Yuma County. The program is embodied in Arizona Administrative Code R18-2-609, R18-2-612 through 614 (see Attachment A).

An Ag BMP rule has been used in Maricopa County as a dust control measure with some success since May, 2000. The Maricopa County Agricultural BMP rule was approved as BACM by EPA, and has been upheld in federal court, which found the flexible format uniquely suited to widely varying farm situations. Agricultural BMPs, therefore, are appropriate to Yuma County, as they are in Maricopa County, so long as the BMP rule adapts to the unique farming conditions of Yuma County. Yuma's topography, soil conditions, crops, and irrigation methods differ substantially from Maricopa County's, and the Yuma County Ag BMP was conceived and is being implemented with this in mind.

Enforcement

Through the Arizona Department of Agriculture's Consultation and Training (ACT) program, non-regulatory compliance assistance is provided for farmers in the Yuma PM_{10} Nonattainment Area. To ensure compliance with laws and rules that address air quality standards, the ACT consultant conducts an on-site visit of the agricultural establishment and completes an evaluation report for the farmer. Included in the evaluation report is information gathered during the on-site visit and any corrective measures recommended by the ACT consultant.

Training is provided through the ACT program for farm workers on best management practices to reduce PM_{10} during farming operations. The ACT program provides training materials and a video for farm owners to enhance the implementation of their air quality BMP plan.

ADEQ dust control action forecasts for Yuma are made available to the regulated farmers in the PM_{10} nonattainment area through the ACT program. The notification alerts farmers to implement their dust control action plan and informs them that State air quality inspectors may be conducting surveillance on the days that are deemed high risk for a PM_{10} exceedance.

The ACT program utilizes a non-enforcement approach and is not affiliated with any of the enforcement programs, allowing a formal

means by which the regulated agricultural community may request compliance assistance without regulatory intervention.

ADEQ has dedicated a 0.2 full time employee and $19,300 on an annual basis to enforce the Yuma agricultural BMP rule in Yuma County. ADEQ also works with the Arizona Department of Agriculture and Yuma County for field support with respect to enforcement.

(b) 20% Opacity Standard (R18-2-702)

Additional emissions reductions from permitted sources in the Yuma Nonattainment Area are expected as a result of revising Arizona Administrative Code R18-2-702 General Provisions (see Attachment B). R18-2-702, which is the 20% opacity standard, applies to certain categories of permitted sources not covered by a separate opacity limit in other sections of ADEQ rules. ADEQ met with stakeholders on several occasions before revising this rule in 2003 to conform to EPA's requirement for a 20% opacity limit.

Enforcement

ADEQ has dedicated 1 full time employee and $ 77,144 on an annual basis to enforce R18-2-702 in the Yuma area.

(c) City of Yuma Street Sweeping Program

During the stakeholder process, ADEQ discovered the City of Yuma has a street sweeping program that is implemented as a matter of policy. The City has five mechanical broom-type sweepers which suit the City's desert and dust-exposed areas. Approximately 240 miles of streets are swept annually in the City of Yuma.

Implementation

The City of Yuma has dedicated five full time employees and $251,072 on an annual basis to operate the City street sweeping program.

(d) City of Somerton Street Sweeping Program

It was discovered that the City of Somerton has a street sweeping program during the Yuma stakeholder process. The City of Somerton has one street sweeper. The City of Somerton, similar to

the City of Yuma, operates its street sweeping program as a matter of policy.

(e) Yuma County Street Sweeping Program

During the stakeholder process, ADEQ discovered that Yuma County, similar to the Cities of Yuma and Somerton, has a street sweeping program that is implemented as a matter of policy. Yuma County has one street sweeper. Yuma County staff informed ADEQ that approximately 510 miles of streets are swept annually in Yuma County.

Implementation

Yuma County has dedicated one full time employee and $151,000 on an annual basis to operate its street sweeping program.

B.2. Conduct Pilot Tests of New Emission Reduction Techniques for Minimizing Sources of Wind-blown Dust

In view of the fact that the Yuma area has attained the 24-hour and annual PM_{10} national ambient air quality standards, ADEQ and the Yuma area stakeholders concluded that it was not necessary to conduct pilot tests of new emissions reduction techniques in the Yuma area at this time. This proposal was not discussed at length during the stakeholder process.

B.3. Establish Public Notification and Education Programs and Develop and Implement Programs that Help Minimize Public Exposures to Unhealthy Concentrations of PM_{10} due to Future Natural Events

State and local agencies must take appropriate reasonable measures to safeguard public health regardless of the source of PM_{10} emission. Both the NEP and the NEAP outline actions necessary to education and notify the public of any health-related affects due to air quality impacts; these include:
(1) establish public notification and education programs where the National Air quality Standards (NAAQS) are exceeded; and
(2) maintain these programs to minimize public exposure to such events in the future.

Over the past months, ADEQ has assisted stakeholders in Yuma County, including the cities of Yuma and Somerton, in the development a public notification and education program as part of the specific NEAP commitment. Yuma residents were educated regarding

the adverse health effects of PM_{10} and, with ADEQ 's assistance, identified key stakeholders in the Yuma area to be included in this program. The program focuses on alerting sensitive segments of Yuma's population to potential health threats from exposure to high concentrations of PM_{10} that can trigger asthma, bronchitis, sever coughing, heart attacks, and other life threatening upper respiratory problems if exposed.

To this end, ADEQ and Yuma entities developed a Media Contact List for Yuma and the surrounding area (see Appendix C), an Outreach and Notification Resource List (see Appendix D), and a Dust Action Forecast plan (see in Appendix E) to be utilized by the media and daycare centers, including senior centers, in the event of a high-wind event that could increase concentrations of PM_{10}. In addition, the Cities of Yuma, Somerton, along with Yuma County developed a dust complaint hotline for citizens to report violators (Yuma: (928) 327-4500, Yuma County: (928) 217-3878, Somerton: (928) 627-9876), and ADEQ assisted with the development of educational materials, including bi-lingual brochures. These materials are to be disseminated by ADEQ community liaison for the Southwest region in concert with Yuma County public service announcements, planned speaking events, and other information to be posted to local and state websites where it can be downloaded for further dissemination. The ADEQ alert page can be found at http://www.azdeq.gov/function/education/index.html. The Yuma County webpage is at http://www.co.yuma.az.us/dds/EP/epmain.htm.

B.4. Require All Construction Projects to Display a Project Information Sign with a Phone Number for Citizens to Report Dust Complaints

(a) City of Yuma Project Information Sign Requirement

During the stakeholder process, it was discovered that current local laws require some level of dust mitigation during construction projects. Building permits for projects in the City of Yuma can be obtained through either the zoning department or the public works department, depending upon the type of project undertaken. In each case, local law now requires that a project information sign be posted at construction projects of one acre or larger. City Ordinance Number 02004-72, effective January 1, 2005, (see Attachment F) requires the sign to be posted prominently at the construction site and to display a phone number for citizens to report dust complaints.

(b) City of Somerton Project Information Sign Requirement

One outcome of the stakeholder process concerning the project information sign requirement for the City of Somerton was that Somerton staff reviewed the City's dust control plan requirements to determine if its requirements could be made more effective to control dust associated with construction projects in Somerton. As in the case of Yuma, the City of Somerton adopted an ordinance that requires a project information sign be posted at construction projects that are one acre or larger. City Ordinance Number 293, effective July 19, 2005, (see Attachment G) requires the sign to be displayed prominently at the construction site and to display a phone number for citizens to report dust complaints.

(c) Yuma County Project Information Sign Requirement

Yuma County also issues building permits and has requirements similar to the Cities of Yuma and Somerton for dust control plans for projects in the unincorporated portions of Yuma County. ADEQ is committed to working with the County to enforce this requirement. Both Yuma County and ADEQ agreed, during the stakeholder process, that this requirement could be strengthened. Yuma County, similar to the Cities of Yuma and Somerton, decided to add a project information sign requirement for construction projects that are one acre or larger. Yuma County Ordinance Number 05-01, effective August 1, 2005, (see Attachment H) requires the sign to be posted prominently at the construction site and to display a phone number for citizens to report dust complaints.

Enforcement

Yuma County is in the process of developing its air quality environmental compliance and inspection program. Yuma County has dedicated one part-time employee to enforce its project information sign ordinance. In addition, Yuma County is conducting negotiations with ADEQ to partner in the enforcement of this requirement.

The County has implemented a computerized tracking system that tracks citizen complaints related to construction projects in the unincorporated portions of Yuma County. The computer tracking system will be used to respond and follow-up on registered citizen dust complaints, and identify problem areas that need follow-up by either ADEQ or Yuma County enforcement personnel.

B.5. Continue to Review Options with State Officials Regarding Implementation of a State Statute that will Require Haul Trucks to Cover Their Loads during Transport Throughout the Yuma Area

The stakeholder process revealed the AAC R18-2-606 could not be used to require trucks to cover their loads in the Yuma Nonattainment Area. It

was suggested that ADEQ sponsor a proposal for a state statute that would specifically require trucks to cover their loads in the nonattainment areas in Arizona. Although ADEQ was unable to submit a proposal in time to the Arizona State Legislature to create a statute, for this submittal, requiring haul trucks to cover their loads during transport through the Yuma area, ADEQ will submit a proposal for this statute during the 2006 legislative session. This requirement will be a contingency measure for the Yuma area and will be included in the Yuma PM_{10} Maintenance Plan.

B.6. Allow the Yuma County Public Works Department to Continue the Responsibility to Water, Grade, and Compact the County Unpaved Roads throughout the Yuma Nonattainment Area

ADEQ does not have the legal authority to require or allow the Yuma County Public Works Department to water, grade, and compact the county unpaved roads throughout the Yuma Nonattainment Area. Consequently, ADEQ cannot implement this practice as a BACM at this time; however, this activity is ongoing, as reported to the Yuma Metropolitan Planning Organization, and modeled for the attainment demonstration.

B.7. Coordinate the Development of a Hotline that the Public Can Use to Report Unauthorized or Speeding Vehicles on Any Unpaved Road

The hotline number mentioned in the NEAP evolved, during the stakeholder process, into the various complaint numbers listed for the entities in Yuma on the public information pamphlet, *How Can I Protect My Family in Yuma from Dust Pollution* (see Attachment I). Any Yuma area citizen can phone in a complaint to the number listed for the jurisdiction in which he resides.

IV. Future Natural and Exceptional Events

In the case of future natural and exceptional events, ADEQ will establish a clear causal relationship between the measured exceedance and the natural event, as required by EPA's NEP and ADEQ's Air Quality Exceptional Exceptional and Natural Events Policy. ADEQ will provide supporting documentation concerning the natural event of the nature of filter analysis, meteorological data, modeling and receptor analysis, videos and/or photographs of the event and the resulting emissions, maps of the area showing sources of emissions and the area affected by the event, and news accounts of the event. This documentation will provide evidence that, absent the emissions from the natural event, concentrations of PM_{10} at the monitoring site under consideration would not cause a NAAQS exceedance. This documentation will be made available to the public for review.

In the case of high-wind events where the sources of dust are anthropogenic, ADEQ will document that BACM were required for those sources and the sources were in compliance at the time of the high-wind event. If BACM are not required for some dust sources, the NEAP developed will include agreements with appropriate stakeholders to minimize future emissions from such sources using BACM.

When ADEQ submits air quality data affect by a natural event to EPA for inclusion into the AIRS data base, ADEQ will flag the data to indicate that a natural event was involved. Documentation to support the flagged data will be maintained by ADEQ. A copy of the documentation will be sent to EPA Region IX monitoring representative no later than 180 days from the time the exceedance occurred, requesting concurrence on the flagging of the data point(s).

VI. Next Steps

ADEQ is currently working with the Yuma area stakeholders to develop the 10 year Maintenance Plan for the Yuma Moderate PM_{10} Nonattainment Area and anticipates submitting the plan to EPA in November, 2005. The Maintenance Plan will contain an attainment demonstration, a maintenance demonstration, and the BACM from the NEAP for the Yuma area.

Enclosure A

Yuma Agricultural Best Management Practices Rule

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NOTICE OF FINAL RULEMAKING

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 2. DEPARTMENT OF ENVIRONMENTAL QUALITY -

AIR POLLUTION CONTROL

PREAMBLE

1.	**Sections Affected**	**Rulemaking Action**
	R18-2-609	Amend
	R18-2-612	Renumber
	R18-2-612	New Section
	R18-2-613	New Section
	R18-2-614	Renumber
	R18-2-614	Amend

2. The statutory authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):

Authorizing Statutes: A.R.S. §§ 49-104(A)(1) and(A)(11), § 49-425

Implementing Statutes: A.R.S. §§ 49-404 and 49-406

3. The effective date of the rules:

60 days after filing with the Secretary of State.

4. A list of all previous notices appearing in the Register addressing the final rules:

Notice of Rulemaking Docket Opening: 10 A.A.R. 3092, August 6, 2004

Notice of Proposed Rulemaking: 10 A.A.R. 4837, Dec. 3, 2004

5. The name and address of agency personnel with whom persons may communicate regarding the rulemaking:

Name: Kevin Force

Address: Arizona Department of Environmental Quality
1110 W. Washington Ave.
Phoenix, AZ 85007

Telephone: (602) 771-4480 (This number may be reached in-state by dialing 1-800-234-

5677) and requesting the seven digit number.)

Fax: (602) 771-2366

6. An explanation of the rules, including the agency's reasons for initiating the rules:

Summary. These rules establish agricultural best management practices (BMPs) for the Yuma planning area to reduce emissions of PM_{10} (particulate matter 10 or less micrometers in aerodynamic diameter) from regulated agricultural activities.

Background. The Yuma planning area is a federally designated moderate PM_{10} nonattainment area, corresponding roughly to the urban area of western Yuma County. It is about 456 square miles in size with a population of approximately 110,000. The boundaries of the Yuma planning area are listed in 40 CFR 81.303 and a map exists on ADEQ's Web site, at www.azdeq.gov. The federal Clean Air Act requires state and local authorities to implement stricter particulate pollution controls in PM_{10} nonattainment areas. Arizona currently has six other moderate PM_{10} nonattainment areas, and one serious PM_{10} nonattainment area (the Phoenix metropolitan planning area). Two other former PM_{10} nonattainment areas have already been redesignated to attainment.

History. EPA designated the Yuma area nonattainment for PM_{10} in 1990, based upon violations that occurred from 1985 to 1990. ADEQ submitted a PM_{10} State Implementation Plan (SIP) to EPA in 1994 that did not contain any rules affecting agricultural particulate pollution. EPA has not acted on that SIP submittal.

On August 18, 2002, a dust storm caused a violation of the federal 24-hour ambient dust standard at the Yuma monitor. This was the first violation of either the annual or 24-hour standard in more than 10 years. The Yuma community and ADEQ developed a Natural Events Action Plan (NEAP) to prevent this and future natural events from causing the area to remain nonattainment. Under federal policy, NEAPs are required to include Best Available Control Measures (BACM) for sources contributing to the violation, which need to be implemented within 18 months after plan submittal. The Yuma NEAP contained a commitment to work with local farmers to develop an Agricultural Best Management Practices (BMP) rule.

An Agricultural BMP rule (R18-2-610 and R18-2-611) has been used in Maricopa County as a dust control measure with some success since May of 2000. Although agriculture in Yuma County is different from that in the Phoenix area, the Maricopa County Agricultural BMP rule was approved as BACM by EPA, and has

been upheld in federal court, which found the flexible format uniquely suited to widely varying farming situations. As the Court noted, "[a]gricultural sources are unlike other stationary sources and are unlike sources such as automobiles that have common design features and may be subject to a common or uniform control measure." [Vigil v. Leavitt, (381 F.3d 826, Sept. 1, 2004)]. Agricultural BMPs, therefore, are appropriate to Yuma County, as they are in Maricopa County, so long as the BMP rule adapts to the unique farming conditions of Yuma County. Yuma's topography, soil conditions, crops and irrigation methods differ substantially from Maricopa's, and any Best Management Practices Rule would have to be able to adopt those differences to be effective.

Yuma agriculture. Agriculture in Yuma County, Arizona, is made possible primarily by large quantities of irrigation water from the Colorado River, as well as groundwater. Yuma agriculture employs some of the most sophisticated and unique systems of crop production in the world. Yuma area farming is so independent of rainfall, rain is sometimes considered a nuisance.

The three biggest crops in Yuma County are lettuce, broccoli, and cauliflower. (In Maricopa County, they are upland cotton, durum wheat, and alfalfa.) Yuma County is the nation's winter salad bowl, producing 85-90% of the country's winter vegetables. There are times during midwinter, and extending into early spring, when fully 90-95% of the iceberg lettuce crop for the United States and Canada comes from Yuma County fields. The cash receipts value for Yuma County crops during 2003 was well over half a billion dollars, nearly as much as the other 14 Arizona counties combined.

Section by Section explanation of rules.

R18-2-609. Agricultural Practices. This Section is the general agricultural dust rule that applies throughout the state unless otherwise specified. It has been amended so that, in addition to not applying in the Phoenix PM_{10} nonattainment area, it would not apply in the Yuma PM_{10} nonattainment area.

R18-2-612. Definitions for R18-2-613. This Section contains definitions of the terms used in the Yuma Agricultural BMP rule. These definitions, including those of various BMPs, include terms specific to the unique circumstances of agriculture in Yuma County.

R18-2-613. Yuma PM_{10} nonattainment areas; Agricultural Best Management Practices. This Section directs each Yuma commercial farmer to implement at least one BMP for each of three categories: tillage and harvest, noncropland, and cropland. It then lists a number of best management practices appropriate to each

category which a farmer may choose to implement. R18-2-613 allows any person to develop different practices than those listed, and submit them to the Director for review. It also directs the farmer to maintain records demonstrating compliance with the BMP rule, and lists several elements that must be included in these records.

7. A reference to any study relevant to the rules that the agency reviewed and either relied on in its evaluation of or justification for the rules or did not rely on in its evaluation of or justification for the rules, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

None

8. A showing of good cause why the rules are necessary to promote a statewide interest if the rules will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

9. The summary of the economic, small business, and consumer impact:

Rule Identification

This rulemaking amends A.A.C. R18-2-609, "Agricultural Practices," and adds A.A.C. R18-2-612, "Definitions for R18-2-613," and A.A.C. R18-2-613 "Yuma PM_{10} Nonattainment Area; Agricultural Best Management Practices."

Costs

In terms of compliance costs, ADEQ expects this rulemaking to have a minimal to moderate economic impact on commercial farmers. This is because farmers must implement a minimum of one best management practice (BMP) from each of three categories: tillage and harvest, noncropland, and cropland. Equipment modifications, track-out controls, and constructing wind barriers, representing examples of BMPs from each category, could result in increased costs to commercial farmers. Another compliance cost associated with this rulemaking is recordkeeping. Commercial farmers must demonstrate compliance with the rule by documenting which BMP is being implemented for tillage, harvest, cropland and noncropland.

Because many of the BMPs listed in rule already are being used by farmers, costs associated with implementing those techniques would represent sunk costs; hence, they would not be considered incremental

compliance costs under this rulemaking. Nonetheless, information provided by the Yuma Farm Bureau suggests that potential compliance costs could be as much as $5.00 to $10.00 per acre; depending on which BMPs are implemented, compliance costs might be either recurring or one-time costs. This estimate includes recordkeeping.

Although the number of acres farmed in the Yuma nonattainment area is not available at this time, ADEQ estimates that one-half of the 231,125 acres of farmland in Yuma County are in the nonattainment area. This proportion would represent about 40 percent of the total acreage in the Yuma PM_{10} nonattainment area, and includes approximately 250 farms.

If the acres farmed in the Yuma nonattainment area total 115,562 the estimated cost would be, at most, $577,810 to $1,155,620. According to the Yuma Farm Bureau, commercial farmers already are implementing many of the proposed BMPs, and as such, compliance costs resulting solely from these rules would be considerably lower. Additionally, farmers can choose BMPs that would be the most economically feasible, which would tend to significantly reduce compliance costs. If the low end of the estimate is more probable, and the $577,810 cost is to be divided among 250 farms, the cost per farm would average $2,310. Due to the market for agricultural commodities, it is unlikely to be feasible to pass on to consumers the increase in operating costs.

For ADEQ, the impact due to the review of records submitted by commercial farmers is expected to be very minimal. The current FTEs are expected to handle the increase in the workload.

Agricultural commodity groups may be impacted minimally as they educate and provide technical assistance to commercial farmers.

ADEQ does not expect this rulemaking to significantly impact business revenues, payroll expenditures, or employment. ADEQ does not anticipate an impact upon state revenues.

Benefits

The impact to businesses that provide services, supplies, or equipment needed to implement BMPs would represent an increase in revenues, or a benefit to those businesses. This also would increase sales taxes paid.

It is expected that the general public in the Yuma PM_{10} nonattainment area will gain from this rulemaking

through health-related benefits due to reduced PM_{10} emissions from agricultural activities. PM not only causes irritation to the respiratory system, but it can cause damage, resulting in difficult breathing, inducement of bronchitis, and aggravation of existing respiratory diseases. Certain population subgroups are more susceptible to PM emissions, such as children, the elderly, and persons with respiratory and cardiovascular diseases. Other harmful effects include soiling, damage to materials and impairment of visibility. As a result, probable benefits are expected to exceed probable costs for implementing this rulemaking.

Small Businesses

State statutes require agencies to reduce the impact of rules on small businesses by using certain methods when they are legal and feasible in supporting the statutory objectives of the rulemaking (A.R.S. §§41-1055 and 41-1035).

Although the proportion of commercial farmers that could be classified as small businesses is unknown, ADEQ believes that potentially as many as 80 percent of these farmers could be considered small businesses. To be defined as a small business, the entity would have to be independently owned and operated, not dominant in its field and employ fewer than 100 full-time employees, or have gross annual receipts of less than four million dollars (A.R.S. § 41-1001).1

Because an objective of this rulemaking is to reduce the impact of PM10, ADEQ could not exempt small businesses from the rule requirements. Under federal law, Agriculture BMPs must meet Best Available Control Measure requirements. Thus, the BMPs for the Yuma planning area must be no less stringent than the BMPs for Maricopa County.

In addition, under this rule, commercial farmers must implement at least one method of a variety of BMPs involving three categories (tillage and harvest, noncropland, and cropland). It would not be legal or feasible to implement less than one BMP. Due to the flexibility of the rule requirements, the impact upon small businesses already has been reduced.

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1 An unknown proportion of farmers may have gross revenues over $4 million. Although revenues may vary depending on the type of crop grown, if a farm has more than 500 acres, for example, and produces 800 cartons of lettuce per acre at a price of $10 per carton, revenues would exceed $4 million. Nevertheless, most farms in the Yuma area probably employ fewer than 100 full-time employees.

ADEQ expects compliance costs to be minimal per commercial farmer due to the fact that each farmer may select a BMP that is most economically feasible. Also, ADEQ expects recordkeeping costs to be very minimal. Therefore, ADEQ could not implement any less intrusive or less costly alternatives methods that would be applicable only to small businesses.

Any small business that provides services, supplies, or equipment to commercial farmers to implement BMPs would benefit economically in the form of additional revenues.

10. A description of the changes between the proposed rules, including supplemental notices, and final rules (if applicable):

Minor technical and grammatical changes to improve the rules' clarity, conciseness and understandability.

11. A summary of the comments made regarding the rule and the agency response to them:

Comment 1: A commenter at the oral proceeding wanted to know what was meant by the phrase "high-wind event" in R18-2-613(E)((7).

Response: The term "Limited activity during a high-wind event" is defined in the previous section at R18-2-612(19) as "performing no tillage or soil preparation activity when the measured wind speed at 6 feet in height is more than 25 mph at the commercial farm site." This is the same definition that is used in the rule for Maricopa County commercial farmers.

Comment 2: A commenter at the oral proceeding wanted to know why the term "commercial farmer" is used throughout the rule but not in subsection (H).

Response: Subsection (H) deals with who may develop and submit to the Director Best Management Practices that are not contained in the rule. The term "person" was used to allow more than just "commercial farmers," as defined in the rule, to develop and submit such practices. The same distinction is made in the rule for Maricopa County.

12. Any other matters prescribed by statute that are applicable to the specific agency or to any other specific rule or class of rules:

Not applicable

13. Incorporations by reference and their location in the rules:

None

14. Was this rule previously made as an emergency rule?

No

15. The full text of the rules follows:

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 2. DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR POLLUTION CONTROL

ARTICLE 6. EMISSIONS FROM NEW AND EXISTING NONPOINT SOURCES

Section

ARTICLE 6. Emissions from Existing and New Nonpoint Sources

R18-2-609. Agricultural Practices

A person shall not cause, suffer, allow, or permit the performance of agricultural practices outside the Phoenix and Yuma planning ~~area~~ areas, as defined in 40 CFR 81.303, which is incorporated by reference in R18-2-210, including tilling of land and application of fertilizers without taking reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne.

R18-2-612. ~~Evaluation of Nonpoint Source Emissions~~ Definitions for R18-2-613

1. "Access restriction" means restricting or eliminating public access to noncropland with signs or physical obstruction.
2. "Aggregate cover" means gravel, concrete, recycled road base, caliche, or other similar material applied to noncropland.
3. "Artificial wind barrier" means a physical barrier to the wind.
4. “Bed row spacing” means increasing or decreasing the size of a planting bed area to reduce the number of passes and soil disturbance by increasing plant density.
5. "Best management practice" means a technique verified by scientific research, that on a case-by-case basis is practical, economically feasible, and effective in reducing PM_{10} emissions from a regulated agricultural activity.
6. "Chemical irrigation" means applying a fertilizer, pesticide, or other agricultural chemical to cropland through an irrigation system.
7. "Combining tractor operations" means performing two or more tillage, cultivation, planting, or harvesting operations with a single tractor or harvester pass.
8. "Commercial farm" means 10 or more contiguous acres of land used for agricultural purposes within the boundary of the Yuma PM_{10} nonattainment area.
9. "Commercial farmer" means an individual, entity, or joint operation in general control of a commercial farm.
10. “Conservation irrigation” means the use of drips, sprinklers, or underground lines to conserve water, and to reduce the weed population, the need for tillage, and soil compaction.
11. “Conservation tillage” means types of tillage that reduce the number of passes and the amount of soil disturbance.
12. "Cover crop" means plants or a green manure crop grown for seasonal soil protection or soil improvement.
13. "Critical area planting" means using trees, shrubs, vines, grasses, or other vegetative cover on

noncropland.

14. "Cropland" means land on a commercial farm that:

a. Is within the time-frame of final harvest to plant emergence;

b. Has been tilled in a prior year and is suitable for crop production, but is currently fallow; or

c. Is a turn-row.

15. "Cross-wind ridges" means soil ridges formed by a tillage operation.

16. "Cross-wind strip-cropping" means planting strips of alternating crops within the same field.

17. "Cross-wind vegetative strips" means herbaceous cover established in one or more strips within the same field.

18. "Equipment modification" means modifying agricultural equipment to prevent or reduce particulate matter generation from cropland.

19. "Limited activity during a high-wind event" means performing no tillage or soil preparation activity when the measured wind speed at six feet in height is more than 25 mph at the commercial farm site.

20. "Manure application" means applying animal waste or biosolids to a soil surface.

21. "Mulching" means applying plant residue or other material that is not produced onsite to a soil surface.

22. "Multi-year crop" means a crop, pasture, or orchard that is grown, or will be grown, on a continuous basis for more than one year.

23. “Night farming” means performing regulated agricultural activities at night when moisture levels are higher and winds are lighter.

24. "Noncropland" means any commercial farm land that:

a. Is no longer used for agricultural production;

b. Is no longer suitable for production of crops;

c. Is subject to a restrictive easement or contract that prohibits use for the production of crops; or

d. Includes a private farm road, ditch, ditch bank, equipment yard, storage yard, or well head.

25. "Permanent cover" means a perennial vegetative cover on cropland.

26. "Planting based on soil moisture" means applying water to soil before performing planting operations.

27. “Precision farming” means use of satellite navigation to calculate position in the field, to reduce

overlap during field operations, and allow operations to occur during nighttime and inclement weather, thus generating less PM_{10}.

28. "Reduce vehicle speed" means operating farm vehicles or farm equipment on unpaved farm roads at speeds not to exceed 20 mph.

29. "Reduced harvest activity" means reducing the number of harvest passes using a mechanized method to cut and remove crops from a field.

30. "Regulated agricultural activity" means a commercial farming practice that may produce PM_{10} within the Yuma PM_{10} nonattainment area.

31. "Residue management" means managing the amount and distribution of crop and other plant residues on a soil surface.

32. "Sequential cropping" means growing crops in a sequence that minimizes the amount of time bare soil is exposed on a field.

33. "Surface roughening" means manipulating a soil surface to produce or maintain clods.

34. "Synthetic particulate suppressant" means a manufactured product such as lignosulfate, calcium chloride, magnesium chloride, and polyacrylamide, an emulsion of a petroleum product, and an enzyme product that is used to control particulate matter.

35. "Tillage and harvest" means any mechanical practice that physically disturbs cropland or crops on a commercial farm.

36. "Tillage based on soil moisture" means applying water to soil before or during tillage, or delaying tillage to coincide with precipitation.

37. "Timing of a tillage operation" means performing tillage operations at a time that will minimize the soil's susceptibility to generate PM_{10}.

38. “Transgenic crops” means the use of genetically modified crops such as “herbicide ready” crops, which reduces the need for tillage or cultivation operations, and reduces soil disturbance.

39. "Track-out control system" means a device to remove mud or soil from a vehicle before the vehicle enters a paved public road.

40. "Tree, shrub, or windbreak planting" means providing a woody vegetative barrier to the wind.

41. "Watering" means applying water to noncropland.

42. “Yuma PM_{10} nonattainment area” means the Yuma PM_{10} planning area as defined in 40 CFR 81.303, which is incorporated by reference in R18-2-210.

R18-2-613. Yuma PM_{10} Nonattainment Area; Agricultural Best Management Practices

A. A commercial farmer shall comply with this Section by August 1, 2005.

B. A commercial farmer, who begins a regulated agricultural activity after August 1, 2005, shall comply with this Section within 60 days after beginning the regulated agricultural activity.

C. A commercial farmer shall implement at least one of the best management practices from each of the following categories at each commercial farm:

1. Tillage and harvest, subsection (E);
2. Noncropland, subsection (F); and
3. Cropland, subsection (G).

D. A commercial farmer shall ensure that the implementation of each selected best management practice does not violate any other local, state, or federal law.

E. A commercial farmer shall implement at least one of the following best management practices to reduce PM_{10} emissions from tillage and harvest:

1. Bed row spacing,
2. Chemical irrigation,
3. Combining tractor operations,
4. Conservation irrigation,
5. Conservation tillage,
6. Equipment modification,
7. Limited activity during a high-wind event,
8. Multi-year crop,
9. Night farming,
10. Planting based on soil moisture,
11. Precision farming,
12. Reduced harvest activity,
13. Tillage based on soil moisture,
14. Timing of a tillage operation, or
15. Transgenic crops.

F. A commercial farmer shall implement at least one of the following best management practices to reduce PM_{10} emissions from noncropland:

1. Access restriction;
2. Aggregate cover;
3. Artificial wind barrier;
4. Critical area planting;
5. Manure application;

6. Reduce vehicle speed;

7. Synthetic particulate suppressant;

8. Track-out control system;

9. Tree, shrub, or windbreak planting; or

10. Watering.

G. A commercial farmer shall implement at least one of the following best management practices to reduce PM_{10} emissions from cropland:

1. Artificial wind barrier;

2. Cover crop;

3. Cross-wind ridges;

4. Cross-wind strip-cropping;

5. Cross-wind vegetative strips;

6. Manure application;

7. Mulching;

8. Multi-year crop;

9. Permanent cover;

10. Planting based on soil moisture;

11. Precision farming;

12. Residue management;

13. Sequential cropping;

14. Surface roughening; or

15. Tree, shrub, or windbreak planting.

H. A person may develop different practices not contained in subsections (E), (F), or (G) that reduce PM_{10}. A person may submit practices that are proven effective through on-farm demonstration trials to the Director. The Director shall review the submitted practices.

I. A commercial farmer shall maintain records demonstrating compliance with this Section. The commercial farmer shall provide the records to the Director within two business days of written notice to the commercial farmer. The records shall contain:

1. The name of the commercial farmer,

2. The mailing address or physical location of the commercial farm, and

3. The best management practices selected for tillage and harvest, noncropland, and cropland by the commercial farmer, and the date each best management practice was implemented.

~~R18-2-612.~~ R18-2-614. Evaluation of Nonpoint Source Emissions

Opacity of an emission from any nonpoint source shall not be greater than 40% measured ~~in accordance with~~ according to the Arizona Testing Manual, Reference Method 9. An open ~~fires~~ fire permitted under R18-2-602 ~~and~~ or regulated under ~~R18-2-603~~ Article 15 ~~are~~ is exempt from this requirement.

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Enclosure B

20% Opacity Standard Rule

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R18-2-702. General Provisions

A. The provisions of this Article shall only apply to a source that is all of the following:
   1. An existing source, as defined in R18-2-101;
   2. A point source. For the purposes of this Section, "point source" means a source of air contaminants that has an identifiable plume or emissions point; and
   3. A stationary source, as defined in R18-2-101.

B. Except as otherwise provided in this Chapter relating to specific types of sources, the opacity of any plume or effluent, from a source described in subsection (A), as determined by Reference Method 9 in 40 CFR 60, Appendix A, shall not be:
   1. Greater than 20% in an area that is nonattainment or maintenance for any particulate matter standard, unless an alternative opacity limit is approved by the Director and the Administrator as provided in subsections (D) and (E), after February 2, 2004;
   2. Greater than 40% in an area that is attainment or unclassifiable for each particulate matter standard; and
   3. After April 23, 2006, greater than 20% in any area that is attainment or unclassifiable for each particulate matter standard except as provided in subsections (D) and (E).

C. If the presence of uncombined water is the only reason for an exceedance of any visible emissions requirement in this Article, the exceedance shall not constitute a violation of the applicable opacity limit.

D. A person owning or operating a source may petition the Director for an alternative applicable opacity limit. The petition shall be submitted to ADEQ by May 15, 2004.
   1. The petition shall contain:
      a. Documentation that the affected facility and any associated air pollution control equipment are incapable of being adjusted or operated to meet the applicable opacity standard. This includes:
         i. Relevant information on the process operating conditions and the control devices operating conditions during the opacity or stack tests;
         ii. A detailed statement or report demonstrating that the source investigated all practicable means of reducing opacity and utilized control technology that is reasonably available considering technical and economic feasibility; and
         iii. An explanation why the source cannot meet the present opacity limit although it is in compliance with the applicable particulate mass emission rule.
      b. If there is an opacity monitor, any certification and audit reports required by all applicable subparts in 40 CFR 60 and in Appendix B, Performance Specification 1.
      c. A verification by a responsible official of the source of the truth, accuracy, and completeness of the petition. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
   2. If the unit for which the alternative opacity standard is being applied is subject to a stack test, the petition shall also include:
      a. Documentation that the source conducted concurrent EPA Reference Method stack testing and visible emissions readings or is utilizing a continuous opacity monitor. The particulate mass emission test results shall clearly demonstrate compliance with the applicable particulate mass emission limitation by being at least 10% below that limit. For multiple units that are normally operated together and whose emissions vent through a single stack, the source shall conduct simultaneous particulate testing of each unit. Each control device shall be in good operating condition and operated consistent with good practices for minimizing emissions.
      b. Evidence that the source conducted the stack tests according to R18-2-312, and that they were witnessed by the Director or the Director's agent or representative.
      c. Evidence that the affected facility and any associated air pollution control equipment were operated and maintained to the maximum extent practicable to minimize the opacity of emissions during the stack tests.
   3. If the source for which the alternative opacity standard is being applied is located in a nonattainment area, the petitioner shall include all the information listed in subsections (D)(1) and (D)(2), and in addition:
      a. In subsection (D)(1)(a)(ii), the detailed statement or report shall demonstrate that the alternative opacity limit fulfills the Clean Air Act requirement for reasonably available control technology; and
      b. In subsection (D)(2)(b), the stack tests shall be conducted with an opportunity for the Administrator or the Administrator's agent or representative to be present.

E. If the Director receives a petition under subsection (D) the Director shall approve or deny the petition as provided below by October 15, 2004:
   1. If the petition is approved under subsection (D)(1) or (D)(2), the Director shall include an alternative opacity limit in a proposed significant permit revision for the source under R18-2-320 and R18-2-330. The proposed alternative opacity limit shall be set at a value that has been demonstrated during, and not extrapolated from, testing, except that an alternative opacity limit under this Section shall not be greater than 40%. For multiple units that are normally operated together and whose emissions vent through a single stack, any new

alternative opacity limit shall reflect the opacity level at the common stack exit, and not individual in-duct opacity levels.

2. If the petition is approved under subsection (D)(3), the Director shall include an alternative opacity limit in a proposed revision to the applicable implementation plan, and submit the proposed revision to EPA for review and approval. The proposed alternative opacity limit shall be set at a value that has been demonstrated during, and not extrapolated from, testing, except that the alternative opacity limit shall not be greater than 40%.
3. If the petition is denied, the source shall either comply with the 20% opacity limit or apply for a significant permit revision to incorporate a compliance schedule under R18-2-309(5)(c)(iii) by April 23, 2006.
4. A source does not have to petition for an alternative opacity limit under subsection (D) to enter into a revised compliance schedule under R18-2-309(5)(c).

F. The Director, Administrator, source owner or operator, inspector or other interested party shall determine the process weight rate, as used in this Article, as follows:

1. For continuous or long run, steady-state process sources, the process weight rate is the total process weight for the entire period of continuous operation, or for a typical portion of that period, divided by the number of hours of the period, or portion of hours of that period.
2. For cyclical or batch process sources, the process weight rate is the total process weight for a period which covers a complete operation or an integral number of cycles, divided by the hours of actual process operation during the period.

Historical Note

Former Section R18-2-702 repealed effective September 26, 1990 (Supp. 90-3). New Section R18-2-702 renumbered from R18-2-502 and amended effective November 15, 1993 (Supp. 93-4). Amended by exempt rulemaking at 9 A.A.R. 5550, effective February 3, 2004 (Supp. 03-4).

Enclosure C

Yuma Media Contact List

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MEDIA CONTACTS

Yuma and Surrounding Area

(Information disseminated by Charlene Fernandez, ADEQ Community Liaison)

Name	Outlet	Title/Dept.	Phone	E-mail
Kevin Tunell	Channel 77	Yuma County Public/Legislative Affairs Office	928-373-1010	kevin.tunell@co.yuma.az.us
Greg Hyland	Channel 73	Strategic Communication Manager/City of Yuma	928-373-5023	greg.hyland@ci.yuma.az.us
Mark Reynolds	KAWC FM 88.9/AM 1320 (Natl. Public Radio)	Program Director	928-344-7684	mreynolds@kawcradio.org
Jesus Corona	KECY-TV, KESE-TV, KWUB-TV	News Director	928-539-9990	jcorona@kecytv.com
Jeff Ofgang	KSWT-TV Channel 13	News Director	928-783-1300	jofgang@kswt.com
Cindy Landin	KTTI/KYJT FM	News Director	928-344-4980	cindylandin@clearchannel.com
Luis Cruz	KYMA-TV Channel 11	News Director	928-782-1111	lcruz@kyma.com
Randy Hoeft	Yuma Sun	Managing Editor	928-783-3333	rhoeft@yumasun.com

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Enclosure D

Outreach and Notification Resources List

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Yuma Public Education and Notification Resource List

Name	Title	Company	Phone	Responsibility Effective date August 01, 2005	E-Mail
Charlene Fernandez	Community Liaison	ADEQ	Office (928)373-9432 Mobile- (928) 580-6431	To disseminate all health and educational material, brochures made available through ADEQ and the dust control action forecast to Yuma stakeholder list.	Fernandez.Charlene@azdeq.gov ADEQ website: www.azdeq.gov
Gerardo Mayoral	Boarder Air Monitoring Coordinator	ADEQ	Office (928) 373-2332	Mr. Mayoral, assists Ms. Fernandez in her absence, with the dissemination of health and educational, brochures made available through ADEQ and dust control action plan.	gem@azdeq.gov
Luis Miranda	Development Services Coordinator	Yuma County	(928) 817-5000 x-5140	Yuma, County has developed a brochure about the acute and chronic health effects of PM_{10} that is available for dissemination by others.	envprograms@co.yuma.az.us Yuma County website: www.co.yuma.az.us/dds/EP/epmain.htm Luis.Miranda@co.yuma.az.us
Kevin Tunell	Public Information Officer	Yuma County	(928) 373-1111	Yuma, County has developed Public Service Announcement.	Kevin.tunell@co.yuma.az.us
Marcia Colquitt	Field Consultant	Arizona Department of Agriculture	(602) 542-3484 1-800 294-0308 outside of Phoenix Metro area.	Department of Agriculture notifies the farmers of the dust control action forecasts. No back up person.	m.colquitt@azda.gov. Website http://www.azda.gov/ACT/AirQuality.htm
Flor Redondo	Program Director	Campesinos Sin Fronteras	(928) 627-1060	Campesinos Sin Fronteras is doing awareness training in Somerton, for the Spanish speaking farm workers.	Redondos1272@aol.com
Kathleen Sommer	Senior Planner	Arizona Department of Transportation	(602) 712-7166	Arizona Department of Transportation notifies road construction crews of the dust control action forecast	ksommer@azdot.gov tpdcoqs@azdot.gov

Name	Title	Company	Phone	Responsibility Effective date August 01, 2005	E-Mail
Beverly Chenausky	Manager Air Quality Branch	Arizona Department of Transportation	(602) 712-7487	Ms. Chenausky assists Ms. Sommer with notification of the road construction crews of the dust control action forecast	bchenausky@azdot.gov
Ibrahim Osman	CIP Project Manager	City of Yuma	(928) 373-4531	Ibrahim Osman receives the dust control action forecast for the City of Yuma and notifies the appropriate crews that work in the City of Yuma.	ibrhim.osman@ci.yuma.az.us
Eddie Mendez	Director of Public Works	City of Somerton	(928) 627-4115	Eddie Mendez receives the dust control action and notifies appropriate crews that work in the City of Somerton.	eddiem@cityofsomerton.com
Elvira Villalpando	Director of School Base Healthcare Program	Yuma Regional Medical Center	(928) 336-7159	Ms. Villalpando, receives the dust control action forecast. Her staff is limited to providing primary care for children without health insurance. These children will be notified of the need to minimize exposure to dust.	evillalpando@yumareigonal.org
Tracy Register	Environmental Protection Office Director	Cocopah Indian Tribe	(928) 627-2025 Ext.-13	Mr. Register receives the dust control action forecast for the Cocopah Tribe. He notifies the daycare centers and the senior population located on the reservation of the need to minimize exposure to dust.	cocoepo@c2i2.com
Ernie Jimenez	Lot Development	H&S Developers	(928) 581-1374	Mr. Jimenez receives the dust control action forecast. He notifies appropriate crews in the event of a high wind forecast.	ernie@foothillsonline.com

Name	Title	Company	Phone	Responsibility Effective date August 01, 2005	E-Mail
Marie Stewart	Marine Corp. Air Station		(928) 269-6669	Ms Stewart is available to speak at schools to educate children of the need to minimize exposure to dust.	Marie.stewart@usmc.mil
Sheryl Christenson	Coordinator	Yuma Conservation Garden	(928) 317-1935	Yuma Conservation Garden assists with outreach and public education for $PM_{10}$and receives the dust control forecast.	www.yumaedsupport.org
Jill Harrison	Executive Director	Western Arizona Council of Government	(928)217-7122	Ms. Harrison receives the dust control action plan to create awareness in the senior population to minimize exposure to high concentration of PM_{10}	jill@wacog.com
Lanita Henderson	CEO	Missing Piece Care Management Service	(928) 316-0778	Ms. Henderson and her staff provide in home care services for seniors with disabilities that may be affected by high concentration of PM_{10} to minimize exposure	mpcms@missingpiececare.com
Charles Botdorf	Environmental Director	Yuma Proving Ground	(928) 328-2754	Mr.Botdorf receives the dust control action forecast. He'll disseminate information to appropriate sources of dust.	Charles.botdorff@yuma.army.mil
Charles Ruerup	Compliance Manager	Yuma Proving Ground	(928) 328-2977	Mr. Ruerup receives the dust control action forecast. He is the back-up to Mr. Botdorf receiving the forecast and disseminate in the absence Mr. Botdorf.	Charles.ruerup@yuma.army.mil

Web-sites to visit that may useful in PM10 public education. Posters and brochures may be printed out.

ADEQ's Alert page:
http://www.azdeq.gov/function/education/index.html
www.azdeq.gov

Wrap's Kid Corner:

http://www.epa.gov/ebtpages/airairpollutantsparticulatematterpm.html
http://www.wrapair.org

EPA Region 9

http://www.epa.gov/region9/enviroed/
http://www.epa.gov/reigon9/
http://www.epa.gov/ebtpages/air.html
http://cfpub.epa.gov/airnow/index.cfm?action=smokefires.main
http://www.epa.gov/air/urbanair/pm/index.html
http://epa.gov/

Enclosure E

Sample Dust Control Action Forecast

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ADEQ Arizona Department of Environmental Quality

Janet Napolitano, Governor
Stephen A. Owens, ADEQ Director

YUMA AND VICINITY
DUST CONTROL ACTION FORECAST
ISSUED FRIDAY, OCT 14, 2005

Three-day weather outlook:

A trough of low pressure is expected to make landfall in southern California late Saturday evening. The associated cold front will push through the southern California deserts and across Yuma early Sunday morning. Subsequent winds could approach 30 mph at times in the Yuma forecast area, resulting in low visibility. The risk for wind-blown dust on Sunday will be HIGH with conditions improving Monday.
NOTE: During the summer month's thunderstorms, both remote and in the vicinity, have the potential to cause periods of gusty winds and blowing dust.

	WINDS	WIND-BLOWN DUST RISK
Day #1: Sat 10/15/2005	South winds 10-20 mph expected.	**MODERATE**
Day #2: Sun 10/16/2005	South winds 10-20 mph expected early, becoming southwest 15-25 mph with gust nearing 30 mph at times.	**HIGH**
Day #3: Mon 06/17/2005	Southwest winds 5-15 mph expected all day.	**LOW**

PM-10 & PM-2.5 (PARTICLES)

Description – The term "particulate matter" (PM) includes both solid particles and liquid droplets found in air. Many manmade and natural sources emit PM directly or emit other pollutants that react in the atmosphere to form PM. Particles less than 10 micrometers in diameter tend to pose the greatest health concern because they can be inhaled into and accumulate in the respiratory system. Particles less than 2.5 micrometers in diameter are referred to as "fine" particles and are responsible for many visibility degradations (brown cloud). Particles with diameters between 2.5 and 10 micrometers are referred to as "coarse".
Sources – Fine = All types of combustion (motor vehicles, power plants, wood burning, etc.) and some industrial processes. Coarse = crushing or grinding operations and dust from paved or unpaved roads.
Potential health impacts – PM can increase susceptibility to respiratory infections and can aggravate existing respiratory diseases, such as asthma and chronic bronchitis.
Units of measurement – Micrograms per cubic meter (ug/m3)
Averaging interval – 24 hours (midnight to midnight).
Reduction tips – Stabilize loose soils, minimize travel on dirt roads, utilize tarps on haul trucks, limit use of leaf-blowers, and on high-wind days reduce outdoor activities.

CKR 05/09/2005

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Enclosure F

City of Yuma Project Information Sign Ordinance

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ORDINANCE NO. O2004-72

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF YUMA, ARIZONA, ESTABLISHING A DUST COMPLAINT SIGN REGULATION AND PROVIDING A PENALTY FOR VIOLATIONS THEREOF

WHEREAS, the City of Yuma is interested in cooperating with the Arizona Department Environmental Quality relating to matters of fugitive dust; and,

WHEREAS, one of the measures that can be taken is to provide for a project information sign requirement on projects involving earth moving at sites over a certain size.

NOW, THEREFORE, BE IT ORDAINED by the City Council of the City of Yuma, as follows:

SECTION 1: DEFINITIONS: For the purpose of this ordinance, the following definitions shall apply:

(A) BUILDING PERMIT – An official document or certificate issued by the City of Yuma, which authorizes the performance of a specific construction work, grading or alteration of ground features to create certain improvements and structures.

(B) GRADING - Excavation of or fill placement of material upon a land surface to create a desired slope or elevation.

SECTION 2: PROJECT INFORMATION SIGN: For all sites with a building or grading permits that are one acre or larger, except for routine maintenance, the owner and/or operator shall erect and maintain a project information sign in accordance with Standard No. 8-100, Work Zone Identification Sign, Sign WZIS-1, of the City of Yuma Construction Standard Detail Drawings, that is readable by the public at the main entrance. Such sign shall have a white background, have black block lettering that is at least four inches high, and shall contain at least all of the following information:

(A) Project name and permit holder,

(B) Building or grading permit number,

(C) Name and phone number of person(s) responsible for conducting the project, and

(D) Text stating: "Dust Complaints" Call the City of Yuma- Public Works Department (insert the current/ accurate phone number or the complaint phone line).

SECTION 3: ENFORCEMENT:

(A) Stop-Work Order; Revocation of Permit

In the event that any person holding a building or grading permit pursuant to this ordinance violates the terms of the ordinance the City may suspend or revoke the building permit.

(B) Violation and Penalties

Any person, firm or corporation violating any of the provisions of this chapter shall be guilty of a class 1 misdemeanor, and upon conviction thereof shall be punished by a fine not to exceed $1,000 or by imprisonment for not more than ten days or both fine and imprisonment. Each separate day or part thereof, during which any violation of said sections shall be punishable as herein provided.

SECTION 4: EXEMPTIONS: The following are exempt from the requirements of this ordinance: normal farm agricultural practices under Arizona Revised Statutes (A.R.S.) §49-457 and §49-504.4, and open areas, vacant lots, unpaved parking lots, and unpaved roadways that are not located at sources that require any permit under these rules.

Passed and adopted this 1st day of December, 2004.

APPROVED:

Ena Lea Shoop

Lawrence K. Nelson
Mayor Acting Mayor

ATTESTED:

Brigitta M. Kuiper

Brigitta M. Kuiper
City Clerk

APPROVED AS TO FORM:

Steven W. Moore
City Attorney

Enclosure G

City of Somerton Project Information Sign Ordinance

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OFFICE OF THE
MAYOR
CITY OF SOMERTON

Ordinance

No. 293

AN ORDINANCE OF THE MAYOR AND CITY COUNCIL ADDING ARTICLE 9-6, DUST COMPLAINT SIGN REGULATION, TO THE SOMERTON MUNICIPAL CODE; PROVIDING PENALTIES FOR THE VIOLATION THEREOF AND FOR SEVERABILITY

WHEREAS, the City of Somerton is interested in cooperating with the Arizona Department of Environmental Quality relating to matters of fugitive dust; and,

WHEREAS, one of the measures that can be taken is to provide for a project information sign requirement on projects involving earth moving at sites over a certain size.

NOW, THEREFORE, BE IT ORDAINED by the Mayor and Common Council of the City of Somerton, Arizona as follows:

SECTION ONE: That the Somerton City Code, Chapter Nine, HEALTH [illegible] DUST COMPLAINT SIGN REGULATION:

Article 9-6	DUST COMPLAINT SIGN REGULATION
9-6-1	PROJECT INFORMATION SIGN
9-6-2	ENFORCEMENT
9-6-3	EXEMPTIONS
9-6-4	DEFINITIONS

SECTION TWO: That Article 9-6 and the subsections referred to thereunder are set forth in their entirety in that public record entitled "DUST COMPLAINT SIGN REGULATIONS" and are incorporated by reference in their entirety in this Ordinance as adopted by Resolution No. 907.

SECTION THREE: If any section, subsection, sentence, clause, phrase or portion of this ordinance is for any reason held to be invalid or unconstitutional by the decision of any Court of competent jurisdiction, such decision shall not affect the validity of the remaining portions thereof.

PASSED AND ADOPTED by the Mayor and Council of the City of Somerton, Arizona this _____ day of _____, 2005.

Miguel Villalpando, Mayor

ATTEST:

_____
Cliff O'Neill, City Manager

APPROVED AS TO FORM:

Gerald W. Hunt, City Attorney

Enclosure H

Yuma County Project Information Sign Ordinance

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YUMA COUNTY BOARD OF SUPERVISORS

ORDINANCE NO. 05 -01

AN ORDINANCE OF THE COUNTY OF YUMA REQUIRING A PROJECT INFORMATION SIGN FOR CONSTRUCTION ACTIVITIES

WHEREAS, Yuma County is interested in cooperating with the Arizona Department of Environmental Quality to implement recommendations in the Natural Events Action Plan for the Yuma PM10 Non-Attainment Area.

WHEREAS, The Natural Events Action Plan for the Yuma PM10 Non-Attainment Area was developed by the Arizona Department of Environmental Quality, and recommends that Yuma County consider implementing a Project Information Sign for construction activities.

WHEREAS, ARS § 11-251.05 states that the Board of Supervisors may adopt ordinances necessary or proper to carry out the duties, responsibilities and functions of the county.

NOW, THEREFORE, BE IT ORDAINED by the Yuma County Board of Supervisors that this ordinance is adopted to provide regulations requiring the implementation of a Project Information Sign for construction activities throughout the Non-Attainment Area of Yuma County, to be effective at 12:01 am on September 12, 2005.

Adopted this 1st day of August, 2005

Greg Ferguson, Vice-Chairman for
Kathryn "Casey" Prochaska, Chairman
Board of Supervisors
Yuma County, State of Arizona

ATTEST:
Sue Stallworth
Clerk of the Board

APPROVED AS TO FORM AND DETERMINED TO BE WITHIN THE SCOPE OF PERFORMANCE OF DUTY OF THE YUMA COUNTY BOARD OF SUPERVISORS

Edward P. Fehelcy
Deputy County Attorney

P:\Ordinances\Ordinances\Sign Ordinance\Yuma County Sign Ordinance final revision (1Aug 2005).doc

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CHAPTER 1 GENERAL

§ 05-01-1001 INTRODUCTION

The Natural Events Action Plan for the Yuma PM10 Non-Attainment Area was written by the Arizona Department of Environmental Quality with the assistance of citizen stakeholders from throughout the Yuma county area. Generation of dust from anthropogenic sources can cause a variety of air pollution problems. A portion of Yuma County has been designated by the federal government as a non-attainment area for dust due to the generation of particulate matter under 10 microns in size, or PM10. PM10 affects the safety, health and welfare of citizens of Yuma County and creates an adverse environmental effect. Construction activities contribute to particulate emissions, therefore one option under consideration is to require a project information sign for certain size construction projects.

§ 05-01-1002 PURPOSE

The purpose of this ordinance is to establish minimum requirements for implementation of a Project Information Sign for construction activities within the Yuma Non-Attainment Area.

CHAPTER 2 DEFINITIONS

§ 05-01-2001 DEFINITIONS

For the purpose of this ordinance, the following definitions are applicable:

"BEGIN ACTUAL CONSTRUCTION" means initiation of physical on-site construction activities on an emissions unit that are of a permanent nature. For purposes of title I, parts C and D and section 112 of the Clean Air Act, these activities include installation of building supports and foundations, laying of underground pipe work and construction of permanent storage structures. For purposes other than title I, parts C and D and section 112 of the Clean Air Act, these activities do not include installation of building supports and foundations, laying of underground pipe work and construction of permanent storage structures.

"BUILDING PERMIT" means an official document or certificate issued by the County of Yuma, which authorizes the performance of a specific construction work, grading, alteration of ground features to create certain improvements and structures.

"CONSTRUCTION" means any physical change in a source or change in a method of operation of a source including fabrication, erection, installation or demolition or a source that would result in a change in actual emissions.

"EARTH-MOVING OPERATIONS" are the use of any equipment for an activity where soil is being moved, uncovered.

"FINAL STABILIZATION" means that all soil disturbing activities at the site have been completed.

"GRADING PERMIT" is an official document or certificate issued by the Flood Control Engineer, authorizing grading activity as specified by approved plans and specifications.

"PERSON" includes any public or private corporation, company, partnership, firm, association or society of persons, the federal government and any of its departments or agencies, the state and any of its agencies, departments or political subdivisions, as well as a natural person.

CHAPTER 3 STANDARDS

§ 05-01-3001 PROJECT INFORMATION SIGN REQUIREMENTS

A. Any person that requires a building or grading permit of one acre or greater shall install and maintain a project information sign in accordance with the below requirements.

B. The sign shall be installed prior to beginning actual construction activities and initiating any type of earth-moving operations.

C. The sign shall be installed at a prominent location near the main entrance of the construction site. Traffic visibility shall be maintained by placing the sign back from the main ingress/egress location and at any applicable intersection for proper sight-triangle clearances.

D. The sign may be removed once:

1. The final for the building permit is approved by the Chief Building Official, or,
2. Final stabilization has been achieved on all portions or the site for which the person is responsible and is approved by the County Environmental Programs Section.

E. The following information shall be displayed on the project information sign:

Project Size	1.01-9.99 Acres	Over 10 Acres
Sign Size	36"H x 48" W	48"H x 96" W
Developer's Name	3"	4"
Project Name	3"	4"
Company Phone Number ###-####	3"	4"
IF YOU HAVE DUST COMPLAINTS Please call Yuma County Dust Control Hotline 928-217-DUST (3878)	2.25"	3"

F. The project information sign text height shall be at a minimum as shown on the template above, and must contrast with lettering, typically black text with white background.

G. The lower edge of the sign board must be a minimum of three (3) feet and a maximum of five (5) feet above grade.

CHAPTER 4 EXEMPTIONS

§05-01-4001 GENERAL EXEMPTIONS

The following are exempt from the requirements of this ordinance:

A. Normal farm agricultural practices under Arizona Revised Statutes (A.R.S.) §49-457 and §49-504.4

B. Any action required or authorized to implement emergency operations that are officially declared by Yuma County to ensure the public health and safety.

CHAPTER 5 COMPLIANCE

§05-01-5001 COMPLIANCE

Failure to comply with any of the provisions specified under this ordinance shall constitute a violation. In the event that any person holding a building or grading permit pursuant to this ordinance violates the terms of the ordinance the County may suspend or revoke the building permit.

DEVELOPER NAME

PROJECT NAME

Developer LOGO

COMPANY PHONE NUMBER ###-###-####

IF YOU HAVE DUST COMPLAINTS PLEASE CALL YUMA COUNTY DUST CONTROL HOTLINE

928-217-DUST (3878)

Note: Logo shown is optional. The project information sign may also include information regarding the location or availability of the Storm Water Pollution Prevention Plan , if required in accordance ADEQ requirements.

Enclosure I

Yuma Area Public Information Pamphlet

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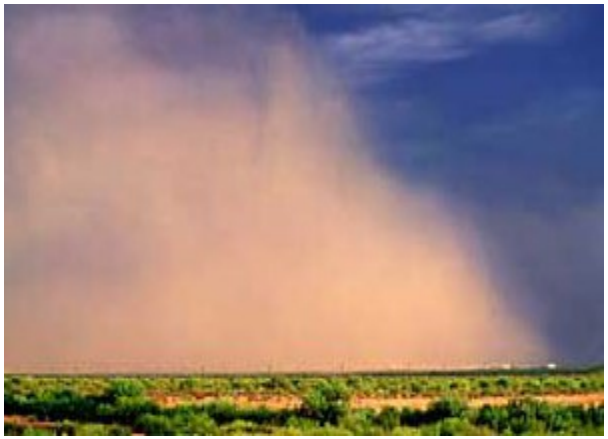
What can I do to help?

- Drive slower on unpaved roads.
- Use a leaf vacuum instead of a leaf blower.
- Cover haul trucks that may produce dust while transporting.
- Homeowners can plant flowers or other vegetation on bare soil areas.
- Use the Yuma County Dust Control Hotline to report your dust complaints.



YUMA COUNTY ARIZONA

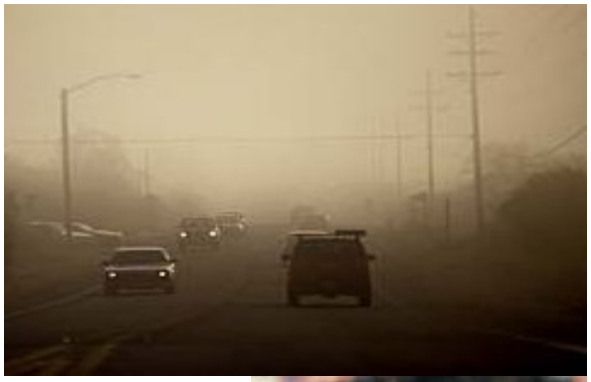
PROTECTING THE ENVIRONMENT

Yuma County Department of Development Services
2703 South Ave B, Yuma, Arizona 85364

Phone: 928-329-2300
Fax: 928-726-5626
http://www.co.yuma.az.us/dds/EP/EPmain.htm

Developed 14 July 2005 by LM

Dust Particles, The Environment & Your Health



Yuma County
Department of Development Services

What is Particulate Matter?

Particulate matter is made up of a number of components, including dirt, soil dust, pollens, molds, ashes, soot and aerosols that remain suspended in air. Coarse particulate matter that is 10 microns in size (also known as PM10) or less can become airborne, causing both environmental and health effects. Particulate matter is caused by a variety of activities including construction and earthmoving activities, driving on unpaved roads and vacant lots, farming activities, and even the wind!

Did you know? The size of a single human hair is about 75 microns!

What are the Health Effects?

The size of the particle is directly linked to their potential to cause health related problems. Small particles that are 10 microns or less pose the greatest threat to your health because the small particles can get deep into your lungs. Exposure to PM10 may aggravate respiratory diseases such as asthma, bronchitis, and emphysema.

Are you at risk?

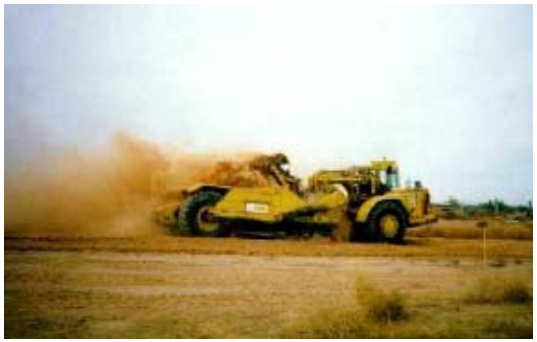
People with the greatest risk to particulate matter pollution include persons with lung or heart disease, the elderly, and young children. Persons with lung or heart disease such as chronic obstructive pulmonary disease (COPD), coronary artery disease, asthma, are at greater risk from particulate matter pollution because the particles can aggravate these conditions and make breathing difficult. The elderly are potentially at risk because of decreased lung capacity and possibly undiagnosed health related issues. Children are also at risk to higher levels of particulate pollution because of their high level of activity and their lungs may be at an early stage of development.

I'm healthy, can particle pollution really affect me?

Health studies conducted indicate that exposure can lead to a variety of negative health effects. Such as tightness in the chest, palpitations, shortness of breath, chest pain, wheezing, and a number of other problems.

So what can I do to protect myself and my family?

First, you need to be aware of the problems associated with particulate pollution. Seek appropriate medical attention in the event you experience any adverse effects from particulate pollution. Second, limit outdoor family activities when particulate pollution is high. For additional information check the following website, http://www.co.yuma.az.us/dds/EP/EPmain.htm and



click on the following link.

ADEQ Arizona Department of Environmental Quality

This site will provide you with the most up-to-date particulate pollution forecasts.

How can I Make a Dust Complaint?

If you see dust coming from construction sites, trackout onto paved roads, and off-road vehicles in prohibited areas, call the Yuma County Dust Control Hotline at:

928-217-DUST

PROTECTING THE ENVIRONMENT

Yuma County Department of Development Services

Phone: 928-329-2300
Fax: 928-726-5626
http://www.co.yuma.az.us/dds/EP/EPmain.htm

Developed 14 July 2005 by LM

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